

ANSz50

compact z-scanner

Technology	
travel mechanism	piezo driven lever arm mechanism

Size and Dimensions	
footprint; height	15 x 15; 6 mm

Fine Positioning Mode	
scan range	4.3 μm @ 300 K, 2 μm @ 4 K
scan resolution	sub-nm resolution

Coarse Positioning Mode	
travel (step mode)	no coarse positioning capability

Materials (non-magnetic)	
positioner body	Titanium (other materials on request)
actuator	PZT ceramics
connecting wires	2 twisted pairs, Cu wires
weight	4.5 g

Load	
maximum vertical load	50 g
maximum torque on the axis	10 Ncm
maximum bandwidth	100 Hz

Mounting	
frontside mounting	two through holes for M1.6
backside mounting	---
load mounting	four threads M1.6

Article Numbers			
/RT Version	1002601	/LT Version	1002604
/HV Version	1002602	/LT/HV Version	1001588
/UHV Version	1002603	/LT/UHV Version	1002605

Compatibility with Electronics	
ANC200 piezo scan controller	all versions
ANC300 piezo positioning controller	all versions
ANC350 piezo controller	all versions

Working Conditions	
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mounting orientation	scanner moving vertically
magnetic field range	0 .. 31 T
temperature range (/RT, /HV, /UHV)	0 .. 100 °C
temperature range (/LT, /LT/HV, /LT/UHV)	1 K .. 300 K, Test @ 4.2 K
max. bake out temperature (/UHV, /LT/UHV)	150 °C
minimum pressure (/RT, /LT)	1E-4 mbar
minimum pressure (/HV, /LT/HV)	1E-8 mbar
minimum pressure (/UHV, /LT/UHV)	5E-11 mbar

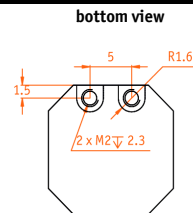
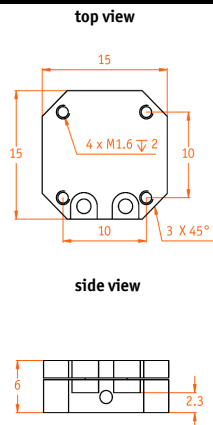
Connectors and Feedthroughs	/RT, /LT Versions	all /HV, /UHV Versions
connector type	2-pole pin plug, \varnothing 0.5 mm, d = 2 mm,	two female conn., for pin \varnothing 1 mm,
connector type	30 cm cable with connector	30 cm cable with connector
electrical feedthrough solution	COC230/LT	COC230/HV, COC230/UHV

Temperature Dependent Data	@ 300K	@ 4K (only /LT versions)
input voltage range	0 .. +60 V	0 .. +150 V
typical actuator capacitance	2500 nF	340 nF
typical step size (min .. max)	---	---
fine positioning range	4.3 μm @ 60 V	2 μm @ 150 V

Accuracy of Movement	
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repeatability	typically 0.1 %
resonance frequency (typically higher than)	0
creep	typically 0.5 - 0.8 % per decade of time
linearity	typically 5 - 10 %

Drawings



3D view

